FINAL REPORT

Microbiological Sampling Report

for

National Oceanic & Atmospheric Administration

A Sampling Conducted on the Eleventh Floor
of Building SSMC-3
on February 24, 2000

Interagency Agreement #: D8H00CO31200
Task: 9903

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Prepared by

US Public Health Service

Division of Federal Occupational Health

Bethesda Central Office

Executive Summary

At the request of the National Oceanic & Atmospheric Administration (NOAA), Federal Occupational Health (FOH) conducted a microbiological sampling in rooms 11111, 11116, 11152, 11207, and 11362 of Building SSMC-3, located at 1315 East-West Highway, Silver Spring, Maryland. The sampling was conducted on February 24, 2000. Andersenâ air, swab, contact plate, and vacuum dust samples were collected from these rooms and an indoor reference room 11226. Air samples were also collected from outdoors.

Findings are as follows:

· Indoor airborne fungal levels were lower than those of outdoors.

· *Stachybotrys chartarum* was not detected from any air, swab, or contact plate sample.

· In general, fungal burden on vertical hard surfaces was lower than that of horizontal surfaces.

· Fungal levels on horizontal surfaces in rooms 11111 and 11116 were slightly higher than those of the indoor reference room 11226 with *Penicillium* as the predominant fungal genus recovered.

· Very low fungal burden was detected from swab samples collected from surfaces of supply diffusers and return troughers in light fixture.

· Fungal levels in furniture dust were at $10^3 – 10^4$ CFU/g of fine dust levels. *Stachybotrys chartarum* was not detected from these samples.

· Fungal levels in carpet dust of these rooms were at 10^3 CFU/g levels. *Stachybotrys chartarum* was not detected from these samples.

· Fungal levels in plenum dust of indoor reference (11226) and a computer room (11207) were at 10^3 CFU/g of fine dust levels. Fungal levels in plenum dust from other surveyed rooms were at 10^4 CFU/g of fine dust levels. *Stachybotrys chartarum* was detected from rooms 11152 and 11207.

INTRODUCTION

At the request of the National Oceanic & Atmospheric Administration (NOAA), Federal Occupational Health (FOH) conducted a microbiological sampling in rooms 11111, 11116, 11152, 11207, and 11362 of Building SSMC-3, located at 1315 East-West Highway, Silver Spring, Maryland. Sampling was conducted on February 24, 2000. Andersenâ air, swab, contact plate, and vacuum dust samples were collected from these rooms and an indoor reference room 11226. Air samples were also collected from outdoors.

EVALUATION METHODOLOGY

Various types of samples were collected from these rooms on February 24, 2000.

Air Samples

Air samples were collected from each room by Andersenâ N-6 samplers at a flow rate of 28.3 L/min. Indoor samples were collected for 3 minutes and outdoor samples were collected for both one and three minutes. Two percent (2 %) malt extract agar (MEA) and cellulose Czapek agar (CCA) was used to recover general fungi and cellulose-loving fungi, respectively. Outdoor air samples were collected near the entrance of the building. Temperature and relative humidity measurements were collected from each air sampling location by a battery operated, direct readout Hygroskopâ meter.

Contact Plate Samples

To determine fungal burden on horizontal and vertical hard surfaces of these rooms, eight contact plate samples were collected from each room. Samples were collected from randomly selected horizontal and

vertical surfaces. Sampling was conducted by pressing the MEA-filled Rodacâ plate against the surface of interest for five seconds. A total of 48 contact plate samples were collected.

Swab Samples

Swab samples were collected from surfaces of each supply diffusers and return troughers at the light fixture in each room. They were collected by wiping a known area of surface with a sterile cotton swab (Culturetteâ) wetted with holding media. Approximately 5 in^2 area was wiped for return trougher and 4 in^2 for supply diffusers. The swab was then placed directly into its holder. Each holder was labeled with an identifiable number. A total of 32 wipe samples were collected from these rooms.

Vacuum Dust Samples

Dust accumulated on carpeting, chairs and fabric system furniture, and the plenum were collected with a High Efficiency Particulate Air (HEPA) vacuum attached with a special "sock" device. For each carpet sample, a 3-ft by 3-ft area was vacuumed for at least five minutes. Total surface areas of 9 ft^2 were vacuumed from system furniture and chairs, and composite as one sample. Dust accumulated above the ceiling plenum was also vacuumed and composite as one sample. One carpet sample, one composite furniture sample, and one composite plenum sample were collected from each room except for room 11207 (computer room), where no furniture dust sample was collected.

All samples collected were sent for next morning delivery to FOH's Environmental Microbiology Laboratory (EML) in Philadelphia, Pennsylvania for analysis.

Laboratory Procedures

Upon receipt, all air and contact plate samples were incubated in a 25°C incubator. Each swab sample was suspended in sterile distilled water, diluted serially, and inoculated onto agar plates. Both MEA and CCA were used for retrieving fungi. At least three dilution series were used for each sample. Each vacuum dust sample was sieved through a 250 mm sieve. The fine dust (< 250 mm) retrieved was then weighed and followed the aforementioned dilution plating for fungal analysis.

All plates were incubated in a 25°C incubator. They were examined every other day for up to 10 days to ensure the full recovery of fungi. Fungal identification was based on colony morphology, spores and conidia formation. Total fungal colonies formed on each MEA plate and *Stachybotrys chartarum* on CCA plates were counted and recorded. Fungal levels in samples were presented as colony forming units (CFUs) per measuring unit. For example, CFU/m^3 for air samples, CFU/in^2 for swab samples, CFU/plate

for contact plate samples, and CFU/g of fine dust for vacuum dust samples.

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RESULTS AND DISCUSSION

Temperature and Relative Humidity

Indoor temperature and relative humidity measurements ranged from 73.8°F to 76.8°F, and 21.6% – 23.5%, respectively (Table 1). Outdoors temperature reading was lower (62°F), but with a higher relative humidity (32%) (Table 1).

Microbiological Analyses Results

All laboratory analytical results are presented in a laboratory report #NOAA-00-36R (Attachment A).

Air Samples

Outdoor airborne fungal levels were higher than those of indoors (Table 1). *Cladosporium* dominated outdoor fungal flora. Other fungi recovered from outdoors were Basidiomycetes *Aureobasidium*, *Aspergillus* (*Aspergillus niger* included), *Penicillium, Alternaria*, and *Paecilomyces*. Fungi detected indoors were similar to those of outdoors. *Stachybotrys chartarum* was not detected from these samples.

Table 1. Temperature and relative humidity measurements and airborne fungal levels in different rooms of the 11th floor in SSMC-3, on February 24, 2000.

Rooms / Parameters	11111	11116	11152	11207	11226 Ref#	11362	Outdoors
Temperature (°F)	73.8	74.2	73.8	76.8	76.6	76.3	62.1 61.9
Relative Humidity (%)	21.9	23.2	23.5	23.3	21.6	22.3	32.1 31.7

Airborne Fungal Levels (CFU/m^3)	24	<12	24	<12	12	<12	636* 177

Indoor reference.

* Two samples were collected from outdoors.

Swab Samples

Most (31 out of 32) samples collected from surfaces of supply diffusers and return troughers in light fixtures were below the detection limits (BDL) (3 CFU/in^2 for supply diffuser and 2 CFU/in^2 for return trougher). The only sample showing fungal growth was collected from a return trougher surface in room 11207 (sample #W27) with 30 CFU/in^2 of *Aureobasidium*. *Stachybotrys chartarum* was not detected from these samples.

Contact Plate Samples

In general, higher fungal levels were detected from the horizontal surfaces than vertical surfaces (Table 2). Fungal levels on vertical surfaces ranged from BDL of 1 CFU/plate to 4 CFU/plate. Fungal levels on horizontal surfaces ranged from BDL of 1 CFU/plate to 17 CFU/plate. Samples collected from horizontal surfaces in rooms 11111 and 11116 were slightly higher than those of the indoor reference room 11226 with *Penicillium* as the predominant fungal genus. Other fungi recovered were similar to those detected from outdoor air samples. *Stachybotrys chartarum* was not detected from these samples.

Table 2. Fungal levels (CFU/plate) on horizontal and vertical surfaces of different rooms at the 11th floor of SSMC-3, by contact plate sampling collected on February 24, 2000.

Rooms	**11111**	**11116**	**11152**	**11207**	**11226 Ref#**	**11362**
Horizontal Surfaces (CFU/plate)	1 – 17* (4**)	1 – 9 (4)	<1 – 3 (4)	<1 – 5 (4)	1 – 2 (4)	<1 – 15 (4)
Vertical Surfaces (CFU/plate)	<1 - 4 (4)	<1 (4)	<1 (4)	<1 – 1 (4)	<1 (4)	<1 – 1 (4)

Indoor reference.

* Ranges.

** Total number of samples.

Vacuum Dust Samples

Diverse fungal genera, such as *Alternaria, Aspergillus niger,* other *Aspergillus sp., Bipolaris, Cladosporium, Epicoccum, Fusarium, Neurospora, Paecilomyces, Penicillium, Pithomyces, Rhizopus, Ulocladium,* Ascomycetes, Basidiomycetes, and yeast were recovered from these dust samples.

Plenum Dust

Fungal levels in the fine dust collected from the plenum ranged from $10^3 – 10^4$ CFU/g of fine dust levels (Table 3). Except for the computer room (room 11207), fungal levels in plenum dust were higher than that of the indoor reference room 11226 (10^4 vs. 10^3 CFU/g of fine dust) (Table 3). *Penicillium* dominated these samples followed by *Cladosporium* and *Aspergillus niger*. *Stachybotrys chartarum* was detected from plenum dust of rooms 11152 and 11207.

Carpet Dust

Fungal levels in the carpet fine dust of these rooms were at 10^3 CFU/g of fine dust level (Table 3). *Cladosporium* and *Penicillium* were the predominant fungal genera, followed by *Aureobasidium* and *Epicoccum*. *Stachybotrys chartarum* was not detected from these samples.

Furniture Dust

Fungal levels in furniture fine dust of these rooms were at $10^3 –10^4$ CFU/g of fine dust levels (Table 3). Fungal levels in furniture dust in room 11362 were higher than that of indoor reference (Table 3). *Alternaria* and *Aureobasidium* dominated these samples. *Stachybotrys chartarum* was not detected from these samples.

Table 3. Total fungal levels (CFU/g of fine dust) in fine dust collected from carpet, plenum, and furniture of rooms 11111, 11116, 11152, 11207, 11226, and 11362 of SSMC-3, by vacuum dust sampling, collected on February 24, 2000.

Rooms	**11111**	**11116**	**11152**	**11207**	**11226 Ref#**	**11362**
Plenum (CFU/g of fine dust)	11,881 (-*)	25,347 (-)	24,706 (+)	6,800 (+)	7,129 (-)	30,099 (-)

Carpet (CFU/g of fine dust)	4,000 (-)	3,600 (-)	2,400 (-)	2,772 (-)	7,600 (-)	3,529 (-)
Furniture (CFU/g of fine dust)	6,200 (-)	1,935 (-)	6,000 (-)	NA**	7,541 (-)	14,545 (-)

\# Indoor reference.

* +: *Stachybotrys chartarum* was detected on MEA and/or CCA plates.

-: *Stachybotrys chartarum* was not detected on MEA and CCA plates.

** Not applicable.

CONCLUSIONS

· Indoor airborne fungal levels were lower than those of outdoors.

· *Stachybotrys chartarum* was not detected from any air, swab, or contact plate sample.

· In general, fungal burden on vertical surfaces was lower than that of horizontal surfaces.

· Fungal levels on horizontal surfaces in rooms 11111 and 11116 were slightly higher than those of the indoor reference room 11226 with *Penicillium* as the predominant fungal genus recovered.

· Very low fungal burden was detected from swab samples collected from surfaces of supply diffusers and return troughers in light fixture.

· Fungal levels in furniture dust were at 10^3 –10^4 CFU/g of fine dust levels. *Stachybotrys chartarum* was not detected from these samples.

· Fungal levels in carpet dust of these rooms were at 10^3 CFU/g levels. *Stachybotrys chartarum* was not detected from these samples.

· Fungal levels in plenum dust of indoor reference (11226) and a computer room (11207) were at 10^3 CFU/g of fine dust levels. Fungal levels in plenum dust from other surveyed rooms were at 10^4 CFU/g of fine dust levels. *Stachybotrys chartarum* was detected from rooms 11152 and 11207.

RECOMMENDATIONS

· Conduct a thorough cleaning of these rooms by HEPA vacuuming and wet wiping.

· Conduct any above ceiling plenum work after hour. Thoroughly HEPA vacuum the surrounding

areas afterwards.

· Implement an emergency water intrusion protocol for this building to adequately manage any unexpected water intrusion in order to prevent fungal proliferation.

ATTACHMENT A

Microbiological laboratory report #NOAA-00-36R for samples collected from eleventh floor of SSMC-3, on February 24, 2000.

USPHS DFOH ENVIRONMENTAL MICROBIOLOGY LABORATORY, PHILADELPHIA, PA

LABORATORY REPORT #NOAA-00-36R

Client agency: National Oceanic and Atmospheric Administration, Silver Spring, MD

POIS#/task #: D8H00CO31200 / 9903

Sampling date: 2/24/00

Dates of inoculation: 2/24/00 (airs and contact plates), 2/25/00 (wipes), 2/28/00, and 2/29/00 (dust)

General location: SSMC-3, Silver Spring, MD

Specific location: 11th floor

Sampling techniques: Air (Andersen N-6 sampler), contact plate, wipe, and vacuum dust samplings

Medium used: Malt extract agar (MEA) and cellulose Czapek agar (CCA) for fungi

Samples submitted by: L. Hung, R. Pickett, and C. Preto

Date characterization completed: 3/8/00

(A) Air samples on MEA and CCA plates

Sample ID	Sampling Location	Air Volume (L)	Fungi on MEA @ 25º C	Presence of *Stachybotrys chartarum**** on CCA @ 25º C
3-11152-0224-A1, A2	11th floor, room 11152	84.9	1. *Aureobasidium* (1*) 2. Basidiomycetes (1) CFU/m^3 = 24	No
3-11116-0224-A1, A2	11th floor, room 11116, by the window (11109)	84.9	No fungal growth CFU/m^3 < 12	No
3-11111-0224-A1, A2	11th floor, room 11111, in the cube	84.9	1. *Cladosporium* (1) 2. Basidiomycetes (1) CFU/m^3 = 24	No
3-11362-0224-A1, A2	11th floor, room 11362	84.9	No fungal growth CFU/m^3 < 12	No
3-11207-0224-A1, A2	11th floor, room 11207, computer room	84.9	No fungal growth CFU/m^3 < 12	No
3-11226-0224-A1, A2	11th floor, room 11226, vacant cube	84.9	1. *Paecilomyces* (1) CFU/m^3 = 12	No

Sample ID	Sampling Location	Air Volume (L)	Fungi on MEA @ 25º C	Presence of *Stachybotrys chartarum**** on CCA @ 25º C

3-Outdoors-0224-1	Outside bldg. 3	28.3	1. *Cladosporium* (8) 2. *Aspergillus sp.* (2) 3. *Aureobasidium* (2) 4. *Alternaria* (1) 5. *Aspergillus niger*** (1) 6. *Penicillium* (1) 7. Basidiomycetes (3) CFU/m^3 = 636	No
3-Outdoors-0224-3	Outside bldg. 3	84.9	1. *Cladosporium* (8) 2. *Penicillium* (2) 3. *Alternaria* (1) 4. *Aureobasidium* (1) 5. *Paecilomyces* (1) 6. Basidiomycetes (2) CFU/m^3 = 177	No
FB	Field blank	NA#	No fungal growth	No
SB	Shipping blank	NA	No fungal growth	No

(B) Contact plate samples on MEA plates

Sample ID	Sampling Location	Fungi detected on MEA @ 25º C
3-11152-0224-CP1	11th floor, room 11152, horizontal, top of file above desk area	**1. *Aspergillus sp.* (1)** 2. *Penicillium* (1) **CFU/plate = 2**

3-11152-0224-CP2	11th floor, room 11152, horizontal, top of lateral file @ entrance	**No fungal growth** CFU/plate < 1

Sample ID	Sampling Location	Fungi detected on MEA @ 25º C
3-11152-0224-CP3	11th floor, room 11152, horizontal, top of computer	**No fungal growth** CFU/plate < 1
3-11152-0224-CP4	11th floor, room 11152, horizontal, on round table	**1. *Aspergillus sp.* (1)** 2. *Epicoccum* (1) 3. *Penicillium* (1) **CFU/plate = 3**
3-11152-0224-CP5	11th floor, room 11152, vertical, on lateral file (top @ entrance)	**No fungal growth** CFU/plate < 1
3-11152-0224-CP6	11th floor, room 11152, vertical, on the board	**No fungal growth** CFU/plate < 1
3-11152-0224-CP7	11th floor, room 11152, vertical, on wall	**No fungal growth** CFU/plate < 1
3-11152-0224-CP8	11th floor, room 11152, vertical, on system furniture cabinet	**No fungal growth** CFU/plate < 1
3-11116-0224-CP1	11th floor, room 11109, horizontal, windowsill	**1. *Penicillium* (5)** 2. *Cladosporium* (2) **CFU/plate = 7**
3-11116-0224-CP2	11th floor, room 11109, horizontal, top of shelf (metal)	**1. *Penicillium* (9)** **CFU/plate = 9**
3-11116-0224-CP3	11th floor, room 11116, horizontal, top of metal shelf	**1. *Penicillium* (4)** **CFU/plate = 4**
3-11116-0224-CP4	11th floor, room 11116, horizontal, top shelf of book	**1. *Penicillium* (1)** **CFU/plate = 1**

3-11116-0224-CP5	11th floor, room 11109, vertical, on column	**No fungal growth** CFU/plate < 1
3-11116-0224-CP6	11th floor, room 11116, vertical, wall above shelves	**No fungal growth** CFU/plate < 1
3-11116-0224-CP7	11th floor, room 11116, vertical, edge of shelf	**No fungal growth** CFU/plate < 1

Sample ID	**Sampling Location**	**Fungi detected on MEA @ 25º C**
3-11116-0224-CP8	11th floor, room 11109, vertical, wall above system furniture	**No fungal growth** CFU/plate < 1
3-11111-0224-CP1	11th floor, room 11111, horizontal, windowsill	**1. *Penicillium* (16)** 2. *Aspergillus sp.* (1) **CFU/plate = 17**
3-11111-0224-CP2	11th floor, room 11111, horizontal, top of desk	**1. *Penicillium* (1)** **CFU/plate = 1**
3-11111-0224-CP3	11th floor, room 11110, horizontal, top of desk	**1. *Penicillium* (3)** 2. *Aureobasidium* (1) 3. *Cladosporium* (1) **CFU/plate = 5**
3-11111-0224-CP4	11th floor, room 11101, horizontal, top of desk	**1. *Penicillium* (5)** 2. *Cladosporium* (1) **CFU/plate = 6**
3-11111-0224-CP5	11th floor, room 11111, vertical, wall near window	**1. *Cladosporium* (3)** 2. *Alternaria* (1) **CFU/plate = 4**
3-11111-0224-CP6	11th floor, room 11111, vertical, side of shelves	**No fungal growth** CFU/plate < 1

3-11111-0224-CP7	11th floor, room 11110, vertical, side of shelf	**1. *Cladosporium* (1)** **CFU/plate = 1**
3-11111-0224-CP8	11th floor, room 11101, vertical, side of system furniture	**No fungal growth** CFU/plate < 1
3-11362-0224-CP1	11th floor, room 11362, vertical, wall near window	**No fungal growth** CFU/plate < 1
3-11362-0224-CP2	11th floor, room 11362, vertical, back wall near window	1. *Alternaria* (1) **CFU/plate = 1**
3-11362-0224-CP3	11th floor, room 11362, vertical, edge of system furniture	**No fungal growth** CFU/plate < 1

Sample ID	**Sampling Location**	**Fungi detected on MEA @ 25º C**
3-11362-0224-CP4	11th floor, room 11362, vertical, wall	1. *Cladosporium* (1) **CFU/plate = 1**
3-11362-0224-CP5	11th floor, room 11362, horizontal, 2nd shelf of book shelf	1. *Alternaria* (6) 2. *Cladosporium* (4) 3. *Chaetomium* (2) 4. *Aspergillus niger*** (1) 5. *Aureobasidium* (1) 6. *Epicoccum* (1) 7. *Penicillium* (1) **CFU/plate = 15**
3-11362-0224-CP6	11th floor, room 11362, horizontal, on desk	**No fungal growth** CFU/plate < 1
3-11362-0224-CP7	11th floor, room 11362, horizontal, top of file cabinet on desk	**No fungal growth** CFU/plate < 1

3-11362-0224-CP8	11th floor, room 11362, horizontal, top of computer	1. *Aspergillus sp.* (1) 2. *Cladosporium* (1) **CFU/plate = 2**
3-11207-0224-CP1	11th floor, room 11207, horizontal, top of computer monitor	**1. *Epicoccum* (2)** **CFU/plate = 2**
3-11207-0224-CP2	11th floor, room 11207, horizontal, top of computer monitor	**1. *Cladosporium* (1)** **CFU/plate = 1**
3-11207-0224-CP3	11th floor, room 11207, horizontal, surface of book shelf	**1. *Alternaria* (3)** 2. *Aureobasidium* (2) **CFU/plate = 5**
3-11207-0224-CP4	11th floor, room 11207, horizontal, counter top	**No fungal growth** CFU/plate < 1
3-11207-0224-CP5	11th floor, room 11207, vertical, back wall	**1. *Alternaria* (1)** **CFU/plate = 1**
3-11207-0224-CP6	11th floor, room 11207, vertical, metal surface of bookshelf	**No fungal growth** CFU/plate < 1

Sample ID	**Sampling Location**	**Fungi detected on MEA @ 25º C**
3-11207-0224-CP7	11th floor, room 11207, vertical, wall underneath painting	**No fungal growth** CFU/plate < 1
3-11207-0224-CP8	11th floor, room 11207, vertical, metal surface of system furniture	**No fungal growth** CFU/plate < 1
3-11226-0224-CP1	11th floor, room 11226, horizontal, top of computer monitor	**1. *Cladosporium* (1)** **CFU/plate = 1**
3-11226-0224-CP2	11th floor, room 11226, horizontal, top of desk	1. Basidiomycetes (1) **CFU/plate = 2**

3-11226-0224-CP3	11th floor, room 11226, horizontal, top of system file cabinet	1. *Penicillium* (1) 2. Basidiomycetes (1) **CFU/plate = 2**
3-11226-0224-CP4	11th floor, room 11226, horizontal, top of shelf	1. *Penicillium* (1) **CFU/plate = 1**
3-11226-0224-CP5	11th floor, room 11226, vertical, side of system furniture near computer	**No fungal growth** CFU/plate < 1
3-11226-0224-CP6	11th floor, room 11226, vertical, side of shelf	**No fungal growth** CFU/plate < 1
3-11226-0224-CP7	11th floor, room 11226, vertical, side of system furniture near door	**No fungal growth** CFU/plate < 1
3-11226-0224-CP8	11th floor, room 11226, vertical, wall above computer	**No fungal growth** CFU/plate < 1
FB	Field blank	No fungal growth

(C) Wipe samples on MEA and CCA plates

FOH ID	Sample ID	Sampling Location	Area (in^2)	Dilution factor	Fungi on MEA @ 25°C	Presence of *Stachybotrys chartarum**** on CCA @ 25º C
Blank	Blank	Blank	NA	10X-MEA 10X-CCA	No fungal growth	No
W01	3-11152-0224-R1	11th floor, room 11152, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W02	3-11152-0224-R2	11th floor, room 11152, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W03	3-11152-0224-S1	11th floor, room 11152, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No

W04	3-11152-0224-S2	11th floor, room 11152, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W05	3-11116-0224-S1	11th floor, room 11116, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W06	3-11116-0224-S2	11th floor, room 11116, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W07	3-11116-0224-S3	11th floor, room 11116, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W08	3-11116-0224-S4	11th floor, room 11116, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W09	3-11116-0224-R1	11th floor, room 11116, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W10	3-11116-0224-R2	11th floor, room 11116, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W11	3-11111-0224-S1	11th floor, room 11111, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W12	3-11111-0224-S2	11th floor, room 11111, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No

FOH ID	**Sample ID**	**Sampling Location**	**Area (in^2)**	**Dilution factor**	**Fungi on MEA @ 25°C**	**Presence of *Stachybotrys chartarum**** on CCA @ 25º C**
W13	3-11111-0224-S3	11th floor, room 11111, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No

W14	3-11111-0224-S4	11th floor, room 11111, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W15	3-11111-0224-R1	11th floor, room 11111, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W16	3-11111-0224-R2	11th floor, room 11111, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W17	3-11111-0224-R3	11th floor, room 11111, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W18	3-11362-0224-S1	11th floor, room 11362, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W19	3-11362-0224-S2	11th floor, room 11362, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W20	3-11362-0224-S3	11th floor, room 11362, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W21	3-11362-0224-S4	11th floor, room 11362, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W22	3-11362-0224-R1	11th floor, room 11362, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W23	3-11362-0224-R2	11th floor, room 11362, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W24	3-11207-0224-S1	11th floor, room 11207, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W25	3-11207-0224-S2	11th floor, room 11207, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No

FOH ID	Sample ID	Sampling Location	Area (in^2)	Dilution factor	Fungi on MEA @ 25°C	Presence of *Stachybotrys chartarum**** on CCA @ 25º C
W26	3-11207-0224-S3	11th floor, room 11207, supply	4	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 3	No
W27	3-11207-0224-R1	11th floor, room 11207, return	5	10X-MEA 10X-CCA	1. *Aureobasidium* (15) CFU/in^2 = 30	No
W28	3-11207-0224-R2	11th floor, room 11207, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W29	3-11207-0224-R3	11th floor, room 11207, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W30	3-11207-0224-R4	11th floor, room 11207, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W31	3-11226-0224-R1	11th floor, room 11226, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No
W32	3-11226-0224-R2	11th floor, room 11226, return	5	10X-MEA 10X-CCA	No fungal growth CFU/in^2 < 2	No

(D) Vacuum dust samples on MEA and CCA plates

FOH ID	Sample ID	Sampling Location	Weight (g)	Dilution factor	Fungi on MEA @ 25°C	Presence of *Stachybotrys chartarum**** on CCA @ 25º C
V01 2/29/00	3-11152-0224-V1	11th floor, room 11152, carpet	0.100	40X-MEA 10X-CCA	**1. *Aureobasidium* (3)** 2. *Cladosporium* (1) 3. *Penicillium* (1) 4. Ascomycetes (1) **CFU/g = 2,400**	No

FOH ID	Sample ID	Sampling Location	Weight (g)	Dilution factor	Fungi on MEA @ 25°C	Presence of *Stachybotrys chartarum*** on CCA @ 25° C
V02 2/29/00	3-11152-0224-V2	11th floor, room 11152, furniture	0.100##	40X-MEA 10X-CCA	**1. *Aureobasidium* (8)** 2. *Alternaria* (5) 3. *Cladosporium* (4) 4. *Aspergillus niger*** (1) 5. *Paecilomyces* (1) 6. *Ulocladium* (1) 7. Ascomycetes (1) 8. yeast (9 9.) **CFU/g = 6,000**	No
V10 2/28/00	3-11152-0224-V3	11th floor, room 11152, vacuum plenum dust	0.102	40X-MEA 10X-CCA	**1. *Penicillium* (45)** 2. *Cladosporium* (7) 3. *Pithomyces* (4) 4. *Aspergillus niger*** (2) 5. *Rhizopus* (2) 6. *Alternaria* (1) 7. *Aureobasidium* (1) 8. *Paecilomyces* (1) CFU/g = 2.5 x 10^4	Yes (5) CFU/g = 490

V03 2/29/00	3-11116-0224-V1	11th floor, room 11116, carpet	0.100	40X-MEA 10X-CCA	**1. *Cladosporium* (2)** 2. *Aureobasidium* (1) 3. *Epicoccum* (1) 4. *Penicillium* (1) 5. Ascomycetes (1) 6. yeast (3) **CFU/g = 3,600**	No
V04 2/29/00	3-11116-0224-V2	11th floor, room 11116, furniture	0.031##	40X-MEA 10X-CCA	**1. *Aureobasidium* (2)** 2. *Alternaria* (1) **CFU/g = 1,935**	No

FOH ID	Sample ID	Sampling Location	Weight (g)	Dilution factor	Fungi on MEA @ 25°C	Presence of *Stachybotrys chartarum*** on CCA @ 25° C
V11 2/28/00	3-11116-0224-V3	11th floor, room 11116, vacuum ceiling plenum	0.101	40X-MEA 10X-CCA	1. *Penicillium* (44) 2. *Cladosporium* (6) 3. *Alternaria* (4) 4. *Aspergillus niger*** (3) 5. *Aspergillus sp.* (3) 6. *Aureobasidium* (1) 7. *Epicoccum* (1) 8. *Neurospora* (1) 9. *Rhizopus* (1)	No

					CFU/g = 2.5 x 10^4	
V05 2/29/00	3-11111-0224-V1	11th floor, room 11111 carpet	0.100	40X-MEA 10X-CCA	**1. *Penicillium* (7)** 2. *Aureobasidium* (2) 3. *Rhizopus* (1) **CFU/g = 4,000**	No
V06 2/29/00	3-11111-0224-V2	11th floor, room 11111, furniture	0.100##	40X-MEA 10X-CCA	**1. *Aureobasidium* (11)** 2. *Cladosporium* (6) 3. *Alternaria* (4) 4. *Aspergillus niger*** (3) 5. *Penicillium* (3) 6. *Rhizopus* (3) 7. *Epicoccum* (1) **CFU/g = 6,200**	No

FOH ID	Sample ID	Sampling Location	Weight (g)	Dilution factor	Fungi on MEA @ 25°C	Presence of *Stachybotrys chartarum**** on CCA @ 25º C

V12 2/28/00	3-11111-0224-V3	11th floor, room 11111, vacuum ceiling plenum	0.101	40X-MEA 10X-CCA	**1. *Penicillium* (14)** 2. *Cladosporium* (11) 3. *Aspergillus niger*** (2) 4. *Fusarium* (1) 5. *Pithomyces* (1) 6. *Ulocladium* (1) CFU/g = 1.2×10^4	No
V07 2/29/00	3-11362-0224-V1	11th floor, room 11362 carpet	0.102	40X-MEA 10X-CCA	**1. *Epicoccum* (5)** 2. *Cladosporium* (3) 3. *Paecilomyces* (1) **CFU/g = 3,529**	No
V08 2/29/00	3-11362-0224-V2	11th floor, room 11362, furniture	0.055##	40X-MEA 10X-CCA	**1. *Alternaria* (15)** 2. *Aureobasidium* (9) 3. *Cladosporium* (8) 4. *Epicoccum* (3) 5. *Penicillium* (2) 6. *Ulocladium* (2) 7. *Bipolaris* (1) CFU/g = 1.5×10^4	No

FOH ID	Sample ID	Sampling Location	Weight (g)	Dilution factor	Fungi on MEA @ 25°C	Presence of *Stachybotrys chartarum*** on CCA @ 25° C
V13 2/28/00	3-11362-0224-V3	11th floor, room 11362, vacuum ceiling plenum	0.101	40X-MEA 10X-CCA	**1. *Penicillium* (43)** **2. *Cladosporium* (19)** 3. *Alternaria* (6) 4. *Aspergillus niger*** (6) 5. *Aspergillus sp.* (1) 6. Basidiomycetes (1) CFU/g = 3.0×10^4	No
V09 2/29/00	3-11207-0224-V1	11th floor, room 11207, carpet	0.101	40X-MEA 10X-CCA	**1. *Cladosporium* (3)** 2. *Epicoccum* (2) 3. *Alternaria* (1) 4. *Penicillium* (1) **CFU/g = 2,772**	No
V14 2/28/00	3-11207-0224-V3	11th floor, room 11207, vacuum ceiling plenum	0.100	40X-MEA 10X-CCA	**1. *Penicillium* (6)** 2. *Aspergillus niger*** (4) 3. *Alternaria* (2) 4. *Cladosporium* (2) 5. *Paecilomyces* (2) 6. *Epicoccum* (1) **CFU/g = 6,800**	Yes (1) CFU/g = 100

V10 2/29/00	3-11226-0224-V1	11th floor, room 11226 carpet	0.100	40X-MEA 10X-CCA	**1. *Cladosporium* (7)** 2. *Penicillium* (3) 3. *Alternaria* (2) 4. *Epicoccum* (2) 5. *Aureobasidium* (1) 6. Ascomycetes (4) **CFU/g = 7,600**	No

FOH ID	**Sample ID**	**Sampling Location**	**Weight (g)**	**Dilution factor**	**Fungi on MEA @ 25°C**	**Presence of *Stachybotrys chartarum**** on CCA @ 25º C**
V11 2/29/00	3-11226-0224-V2	11th floor, room 11226, furniture	0.061##	40X-MEA 10X-CCA	**1. *Alternaria* (5)** 2. *Cladosporium* (5) 3. *Aureobasidium* (4) 4. *Epicoccum* (3) 5. Ascomycetes (6) **CFU/g = 7,541**	No

V15 2/28/00	3-11226-0224-V3	11th floor, room 11226, vacuum ceiling plenum	0.101	40X-MEA 10X-CCA	**1. *Penicillium* (7)** 2. *Aspergillus niger*** (4) 3. *Aspergillus sp.* (3) 4. *Alternaria* (1) 5. *Cladosporium* (1) 6. *Ulocladium* (1) 7. Basidiomycetes (1) **CFU/g = 7,129**	No

* Colony counts.

** Opportunistic fungi.

*** Toxigenic fungi.

Not applicable.

5ml of sterilized distilled water were added instead of 10ml.